

REMARKS

Claims 1-37 are all the claims presently pending in the application. Claims 1, 3-8, 10, 14-17 and 22-24 have been amended. Claims 29-37 have been withdrawn.

It is noted that the claim amendments are made only for more particularly pointing out the invention, and not for distinguishing the invention over the prior art, narrowing the claims or for any statutory requirements of patentability. Further, Applicant specifically states that no amendment to any claim herein should be construed as a disclaimer of any interest in or right to an equivalent of any element or feature of the amended claim.

Applicant gratefully acknowledges the Examiner's indication that claim 15 would be allowable if rewritten in independent form. However, Applicant submits that all of the claims are allowable.

Claim 17 stands rejected under 35 U.S.C. § 112, second paragraph as being allegedly indefinite. Applicant notes that claim 17 has been amended to replace "diameter" with "small diameter" to address the Examiner's concerns. Thus, claim 17 is clear and not indefinite and the Examiner is respectfully requested to withdraw this rejection.

Claims 1-3, 7-13 and 24-28 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Hult (U. S. Patent Pub. 2001/0050168).

Claims 1, 2, 4-6 and 10-13 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by Ricalton et al. (U. S. Patent No. 5,791.411).

Claims 14 and 19 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hult.

Claim 16 stands rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hult in view of Ricalton.

Claims 17 and 18 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hult and Ricalton, and further in view of Dollison (U. S. Patent No. 3,491,831).

Claims 20-23 stand rejected under 35 U.S.C. § 103(a) as being allegedly unpatentable over Hult in view of Purtle (U. S. Patent No. 1,630,863).

These rejections are respectfully traversed in view of the following discussion.

I. THE CLAIMED INVENTION

The claimed invention (e.g., as recited in claim 1) is directed to an improved pump drive head having an integrated stuffing box and including a power transmission coupled to a rotating pump drive shaft within a crude oil well, a stuffing box to retain the pressure, and a thrust assembly adapted to take the tensile force exerted on the pump shaft.

The power transmission includes a tube arranged to be rotated coaxially with the shaft and having at least two different diameters. Rotary seals fit over a small outside diameter of the tube to establish fluid-tightness between the tube and the body of the stuffing box, the outside diameter of the seals being smaller than the large outside diameter of the tube.

Importantly, a tube-to-shaft fit incorporates static seals and the static ones and rotary ones of the seals are adapted, by virtue of a retainer ring provided inside the stuffing box, to come away along with the tube and the component parts associated with the seals (Application at Figures 2 and 7; page 6, line 33-page 7, line 7; page 8, lines 8-13). This may allow an operator to quickly replace the stuffing box or thrust bearing of the pump drive head with only a very short well shutdown (Application at page 13, lines 2-10).

II. THE ALLEGED PRIOR ART REFERENCES

A. Hult

The Examiner alleges that Hult teaches the claimed invention of claims 1-3, 7-13 and 24-28, and makes obvious the invention of claims 14 and 19. Applicant submits, however, that there are features of the claimed invention that are not taught or suggested by Hult.

In particular, Hult does not teach or suggest a pump drive head "*wherein a tube-to-shaft fit incorporates static seals and the static ones and rotary ones of the seals are adapted, by virtue of a retainer ring provided inside said stuffing box, to come away along with said tube and the component parts associated with the seals*", as recited, for example, in claim 1 (Application at

Figures 2 and 7; page 6, line 33-page 7, line 7; page 8, lines 8-13). As noted above, this may allow an operator to quickly replace the stuffing box or thrust bearing of the pump drive head with only a very short well shutdown (Application at page 13, lines 2-10).

Clearly, these novel features are not taught or suggested by Hult.

Indeed, the Examiner attempts to equate the "top" static seal 126 in Hult with the retainer ring of the claimed invention. This is completely unreasonable.

In fact, Applicant would point out that static seals 126 in Hult simply have the function of providing a "seal". Nowhere does Hult teach or suggest that any of the static seals 126 would have the function of "retaining" anything. Indeed, the Examiner has simply made up this function of the static seals in a desperate attempt to reject the claimed invention.

In fact, nowhere does Hult teach or suggest that the static seals 126 may function as a "retainer ring". Moreover, even assuming (arguendo) that the static seals 126 may somehow be confused with a retainer ring, Hult certainly does not teach or suggest a tube-to-shaft fit incorporates static seals and the static ones and rotary ones of the seals are adapted, by virtue of a retainer ring provided inside the stuffing box, to come away along with the tube and the component parts associated with the seals, as in the claimed invention.

Therefore, Applicant submits that there are features of the claimed invention that are not taught or suggested by Hult. Therefore, Applicant respectfully requests that the Examiner withdraw this rejection.

B. Ricalton

The Examiner alleges that Ricalton teaches the invention of claims 1, 2, 4-6 and 10-13, and would have been combined with Hult to form the invention of claim 16. Applicant submits, however, that there are features of the claimed invention that are not taught or suggested by Ricalton, and that Ricalton would not have been combined with Hult and even if combined, the combination would not teach or suggest each and every feature of the claimed invention.

Applicant submits that these alleged references are unrelated. Indeed, no person of ordinary skill in the art would have considered combining these disparate references, absent

impermissible hindsight.

In fact, Applicant submits that the references provide no motivation or suggestion to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner. Therefore, the Examiner has failed to make a prima facie case of obviousness.

Moreover, neither Ricalton, nor Hult, nor any alleged combination thereof teaches or suggests a pump drive head "*wherein a tube-to-shaft fit incorporates static seals and the static ones and rotary ones of the seals are adapted, by virtue of a retainer ring provided inside said stuffing box, to come away along with said tube and the component parts associated with the seals*", as recited, for example, in claim 1 (Application at Figures 2 and 7; page 6, line 33-page 7, line 7; page 8, lines 8-13). As noted above, this may allow an operator to quickly replace the stuffing box or thrust bearing of the pump drive head with only a very short well shutdown (Application at page 13, lines 2-10).

Clearly, these novel features are not taught or suggested by Ricalton.

Indeed, the Examiner surprisingly attempts to equate the spacer 27 in Ricalton with the retainer ring of the claimed invention. This is completely unreasonable.

In fact, Ricalton simply discloses a seal assembly 8 that includes "a spacer 27 carrying an external O-ring 28, for preventing well fluid leakage along the housing inner surface9" (Ricalton at col. 4, lines 24-25). Applicant would point out that spacer 27 in Ricalton simply has the function of providing a "space" between the mandrel 11 and the O-ring 28. Nowhere does Ricalton teach or suggest that the spacer 27 would have the function of "retaining" anything. Indeed, the Examiner has simply made up this function of the spacer 27 in a desperate attempt to reject the claimed invention.

In fact, nowhere does Ricalton teach or suggest that the spacer 27 may function as a "retainer ring". Moreover, even assuming (arguendo) that the spacer 27 may somehow be confused with a retainer ring, Ricalton certainly does not teach or suggest a tube-to-shaft fit incorporates static seals and the static ones and rotary ones of the seals are adapted, by virtue of a

retainer ring provided inside the stuffing box, to come away along with the tube and the component parts associated with the seals, as in the claimed invention.

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every feature of the claimed invention. Therefore, Applicant respectfully request that the Examiner withdraw this rejection.

C. Dollison and Purtle

The Examiner alleges that Hult would have been combined with Ricalton and Dollison to form the invention of claims 17 and 18, and with Purtle to form the invention of claims 20-23. Applicant submits, however, that these alleged references would not have been combined and even if combined, the combination would not teach or suggest each and every feature of the claimed invention.

Applicant submits that these alleged references are unrelated. Indeed, no person of ordinary skill in the art would have considered combining these disparate references, absent impermissible hindsight.

In fact, Applicant submits that the references provide no motivation or suggestion to urge the combination as alleged by the Examiner. Indeed, these references clearly do not teach or suggest their combination. Therefore, Applicant respectfully submits that one of ordinary skill in the art would not have been so motivated to combine the references as alleged by the Examiner. Therefore, the Examiner has failed to make a prima facie case of obviousness.

Moreover, neither Ricalton, nor Hult, nor Dollison, nor Purtle, nor any alleged combination thereof teaches or suggests a pump drive head "*wherein a tube-to-shaft fit incorporates static seals and the static ones and rotary ones of the seals are adapted, by virtue of a retainer ring provided inside said stuffing box, to come away along with said tube and the component parts associated with the seals*", as recited, for example, in claim 1 (Application at Figures 2 and 7; page 6, line 33-page 7, line 7; page 8, lines 8-13). As noted above, this may allow an operator to quickly replace the stuffing box or thrust bearing of the pump drive head

with only a very short well shutdown (Application at page 13, lines 2-10).

Clearly, these novel features are not taught or suggested by Dollison.

Indeed, Dollison simply teaches a subsurface safety valve which includes packing 370 having seal elements 380 and 381 and being held onto an annular piston between a flange 372 and a ring 373, and a helical piston spring 391 confined between a retainer ring 390 and an annular shoulder surface 392 (Dollison at col. 8, lines 35-55).

However, the retainer ring 390 is completely unrelated to the retainer ring of the claimed invention. In fact, nowhere does Dollison teach or suggest a tube-to-shaft fit incorporates static seals and the static ones and rotary ones of the seals are adapted, by virtue of a retainer ring provided inside the stuffing box, to come away along with the tube and the component parts associated with the seals, as in the claimed invention.

Further, Purtle clearly does not teach or suggest the retainer ring of the claimed invention. In fact, Purtle simply teaches a casing head clamp including separable sections having curved edges adapted to fit around a curved surface of a casing head (Purtle at right hand column lines 74-77). That is, nowhere does Purtle teach or suggest a tube-to-shaft fit incorporates static seals and the static ones and rotary ones of the seals are adapted, by virtue of a retainer ring provided inside the stuffing box, to come away along with the tube and the component parts associated with the seals, as in the claimed invention.

Thus, neither Dollison nor Purtle makes up for the deficiencies of Hult and Ricalton.

Therefore, Applicant submits that these references would not have been combined and even if combined, the combination would not teach or suggest each and every feature of the claimed invention. Therefore, Applicant respectfully request that the Examiner withdraw this rejection.

III. FORMAL MATTERS AND CONCLUSION

Applicant notes that the claims have been amended to address the Examiner's objections thereto on pages 3 and 4 of the Office Action.

In view of the foregoing, Applicant submits that claims 1-37, all the claims presently

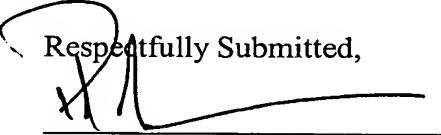
pending in the application, are patentably distinct over the prior art of record and are in condition for allowance. The Examiner is respectfully requested to pass the above application to issue at the earliest possible time.

Should the Examiner find the application to be other than in condition for allowance, the Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary in a telephonic or personal interview.

To the extent necessary for submitting this response, Applicant hereby petitions for an extension of time under 35 C. F. R. 1.136. The Commissioner is hereby authorized to charge any deficiency in fees or to credit any overpayment in fees to Attorney's Deposit Account No. 50-0481.

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Respectfully Submitted,


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